



SUBSTITUTE SPECIFICATION - CLEAN COPY

A METHOD FOR SAFELY ENCRYPTING TRANSMISSION DATA

1. Field of the Invention

5 [0001] The present invention relates to a method for safely encrypting transmission data, which is applied on a personal digital assistant (PDA) or a mobile phone handset for capturing data.

2. BACKGROUND OF THE INVENTION

10 [0002] With the advent of the Internet, electronic commerce is widely used and discussed. The connection of wireless handsets and personal digital assistant (PDA) to a network is now a trend. The manufacturers of handsets and PDA's have created novel handsets for connecting to a wireless network. For example, the current wireless application protocol (WAP) is widely used in the
15 connection of a handset to a network. Related products are also popular in the market.

[0003] However, the current method of wirelessly capturing data through the Internet lacks encryption. Fig. 1 is a schematic view showing a prior art method in which a user acquires data from an Internet without encryption. As shown in
20 Fig. 1, the subscriber's end 10 downloads data on a network 30. In general, the data is downloaded through the Internet directly. After downloading, the data is transferred to other users.

[0004] This prior art method allows any one to download data (or a member acquired a password or an encrypting code can download data). However, in the
25 aforementioned prior art process no way exists to prevent the user from downloading data repeatedly. That is, it is possible that one download of data can be used by many people. This is unfair to the original creator of the download data. Consequently, there is a need for improvement.

[0005] Therefore, there is an eager demand for a method for safely

encrypting transmission data, which can be used on the Internet.

SUMMARY OF THE INVENTION

[0006] Accordingly, the primary object of the present invention is to provide a method for safely encrypting transmission data, which is used in a personal digital assistant (PDA) or a mobile phone handset for wirelessly capturing data. The primary object of the present invention is to provide a safe encrypting method. After the user downloads data from a network, the data is encrypted and then is transferred to the user. The user decrypts the data through a player or an access device for playing the data downloading from a network. The described access device is, for example, an MP3 music database, an electronic book, a network theater, etc.

[0007] In the encryption method of the present invention, the general serial number is used as an encrypting key in the encryption, or a further identification number or the registering number of a company can be used. The encrypting key is only used by the access device of the user for decrypting the encrypted data. That is, the user's download data is only used by that user, which can not be transferred to other peoples so as to protect the intellectual property rights of the original creator.

[0008] To achieve the aforesaid object, the present invention provides a method for safely encrypting transmission data, wherein an access device connects to the subscriber's end of a network, and the serial number of the access device is used as encrypting key. Thus, the data acquired from a network is encrypted. For the users to download data, the download data is only used through the access device of the user, and other users cannot use the data on other devices. Therefore, each user can be charged for each download.

[0009] Preferably, a method for safely encrypting transmission data is used in the playing of MP3 music through a network. By connecting through an access device, the serial number of the access device is used as an encrypting key for decrypting the encrypting data. The user at first inputs the required data and serial number through a server of a network. Music data in a database is downloaded and then encrypted. Then the data is transferred back to the user. Then, the user downloads the data to an MP3 player for playing the music.

[0010] Preferably, a method for safely encrypting transmission data is used in the playing of electronic book through a network. By connecting through an access device, the serial number of the access device is used as an encrypting key for decrypting the encrypting data. The user at first inputs the required data and serial number. Through a server of a network, data of an electronic book in a database is downloaded and then is encrypted. Then the data is transferred back to the user. Then, the user downloads the data to an electronic book player for playing the contents of the electronic book.

[0011] The various objects and advantages of the present invention will be more readily understood from the following detailed description when read in conjunction with the appended drawing.

BRIEF DESCRIPTION OF DRAWINGS

[0012] Fig. 1 is a schematic view of a method for capturing data from the Internet by a user in the prior art design.

[0013] Fig. 2 is a schematic view showing the concept of encrypting the transferring data of a network in the embodiment of the present invention.

[0014] Fig. 3 is a flow diagram showing the process and use for the transferring data of the network in the embodiment of the present invention.

[0015] Fig. 4 is a schematic view showing an embodiment that is a method for safely encrypting the transmission data used in the playing of the network MP3 music.

[0016] Fig. 5 is a schematic view showing an embodiment that is a method for safely encrypting the transmission data used in the playing of the network electronic book.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0017] The present invention relates to a method for safely encrypting transmission data, which is primary used in a personal digital assistant (PDA) and a handset used in a mobile phone. Through the present invention, a method

for safety encryption is provided. After the user downloads data from a network, the data is encrypted and then is transferred to the user. The user decrypts the data through a player or an access device for playing the data downloading from a network. The described access device is, for example, an MP3 music
5 database, an electronic book, a network theater, etc.

[0018] Referring to Fig. 2, a schematic view is shown to illustrate the method for safely encrypting transmission data of the present invention. The data 30 in the network is transferred (22). Then encrypted data is generated (40). Then, the data is transferred to the subscriber's end 10 through an Internet 20. The
10 subscriber's end 10 is for example a handset of a mobile phone, or a personal digital assistant (PDA) which can captures the data from the network directly without needing to be connected to a computer. Therefore, the invention does not require a PC. The work of networking is only performed through a PDA.

[0019] In order to realize the aforesaid encryption work, in the present
15 invention, the user's access device is connected to the subscriber's end of the network. The serial number of the access device is used as an encrypting key for encrypting data from the network so that the encrypted data can be downloaded only by the access device with the specific serial number. Other end users, without being connected to this access device, cannot use these data. The
20 access device is an network connecting device for data transmission used by networks, which may be, for example, an MP3 music player or an electronic book which can downloaded data or upload data to the network for being used by specific users. Therefore, the access device is not confined to the use of PC, and is preferably a personal digital assistants (PDA) or mobile phone handsets
25 instead.

[0020] The method for safely encrypting transmission data in the present invention is illustrated in Fig. 3. Fig. 3 shows an embodiment of the present invention. The user is connected to a server (step 100). Then, the user inputs a serial number to an access device (step 110). The server encrypts the captured
30 data according to the encrypting key generated from the serial number, and then the decrypt is transferred to the access device (step 120). The user transfers the downloading data to the access device 130 himself (or herself). Then, the access device decrypts the receiving data and uses the data (step 140). By the aforesaid steps, the data transferred in the network is encrypted. This decryption is
35 performed only by specific access devices. Therefore, encryption of data on a

network is achieved.

[0021] The method for safely encrypting transmission data in the present invention can be used in the playing of MP3 music. Referring to Fig. 4, a schematic view shows an embodiment of the encrypting method of the present invention used for playing MP3 music. In this embodiment, the user 50 connects using an access device and the serial number of the access device (S / N) is used as an encrypting key for network encryption. The access device is a MP3 music player 56.

[0022] With reference to Fig. 4, the user 50 at first inputs the required data and the serial number (arrow A). By the server 52, the data in the database 54 is downloaded (arrow B). Then, the data is encrypted according to the serial number and then is transferred back to the user's device 50 (arrow C). Then, the user downloads the data from the device 50 to a MP3 player 56 (arrow D) (which can also be incorporated in the access device) for playing music from the data. Therefore, the encrypting of MP3 data over a network for an MP3 player is accomplished. The aforesaid access device may be a network connecting device for transferring data used in a network. The data can be downloaded or uploaded to a network for being used by specific users.

[0023] Similarly, the method of the present invention can be further used to the data encryption of an electronic book in an Internet, as illustrated in Fig. 5. In Fig. 5, the user 60, in advance, inputs the required data and serial number (arrow a) in a device 60. By a server 62 in the network, the electronic book in the database 64 is downloaded (arrow b), and then the data is encrypted according to the serial number and then is transferred to the user's device 60 (arrow c). Then, the user downloads the data from the device to an electronic book player 66 (which can also be incorporated in the access device) for decrypting the data and playing the content of the electronic book. Similarly, the access device can be a network connecting device for data transfer used in general networks, which can download data or upload data to a network for being used by specific users.

[0024] In summary, the method for safely encrypting transmission data of the present invention provides the function of encrypting the transferring data through the Internet for avoiding that the downloaded data from being used by many peoples. Therefore, the object of charging each user for a download is achieved.

[0025] Although the present invention has been described with reference to the preferred embodiments, it will be understood that the invention is not limited to the details described herein. Various substitutions and modifications have been suggested in the foregoing description, and others will occur to those of
5 ordinary skill in the art. Therefore, all such substitutions and modifications are intended to be embraced within the scope of the invention as defined in the appended claims.